Operating Manual

iANT100, iANT101

This page is intentionally left blank.

Document Number **314666** (See Last Page for Revision Details)

©2013 Extronics Limited. This document is Copyright Extronics limited.
Extronics reserve the right to change this manual and its contents without notice, the latest version applies.

Contents

1 Introduction 4
1.1 Antenna Profile 4
2 Safety Information and Notes 5
2.1 Storage of this Manual 5
2.2 Special Conditions for Safe Use 5
2.2.1 ATEX/IECEx 5
2.3 List of Notes 5
3 General information 7
3.1 Installation and Function 7
3.1.1 Parts Enclosed 7
3.1.2 Antenna Installation Recommendations 7
3.2 Optional Accessories 8
3.2.1 iANTMB01 8
3.2.2 iANTMB02 9
3.2.3 iANTMB03 9
3.2.4 iANTMB04 10
3.2.5 iANTMB05 10
3.2.6 iANTMB06 11
4 Technical Specification 12
4.1 Antenna polar patterns and VSWR Plots 12
4.1.1 iANT100/101 2.4 GHz/5 GHz 12
4.1.2 iANT100 GSM Quad Band 13
4.1.3 iANT101 437/458.5/466MHz 14
4.2 iANT100 Specifications 15
4.3 iANT100 Cable Loss 16
4.4 iANT101 Specifications 16
4.5 iANT101 Cable Loss 17
5 Intended Purpose Usage 18
5.1 Transportation and Storage 18
5.2 Cleaning and Maintenance 18
6 Fitting of Exd Antenna Cable Gland on iANT100 19
7 Type Codes 23
7.1 iANT100 23
7.2 iANT101 24
8 EC Declaration of Conformity 25
9 ATEX & IECEx CERTIFICATION 26
10 Warranty Information 33
11 Manual Revision 34

1 Introduction

1.1 Antenna Profile

The iANT100 and iANT101 are increased safety antennas and have been designed and approved by ATEX and IECEx for use in Zone 1 / 21 & Zone 2/22 Hazardous Area Environments.

The iANT100 and iANT101 are optimised for use in WLAN installations in the 2.4GHz and 5 GHz spectrums for IEEE802.11 a/b/g wireless networks or 2.4GHz and 5GHz wireless MESH Ethernet networks.

These devices can be used with explosion proof Access Points such as the Extronics iWAP101 iWAP103 or an Access Point installed in a safe area and just the antenna installed in the hazardous area.

The units are explosion protected in accordance with IEC 60079-0:2007-10 edition 5, IEC 60079-31:2008 edition 1, IEC60079-7:2006-07 edition 4, EN 60079-0:2009, EN 60079-7:2007.
The device is certified as:
II 2 GD
Ex e IIC T6 Gb (T_a = -40°C to 60°C)
Ex t IIIC T85°C Db IP66.
It can operate in areas classified as Zone 1, gas and dust with a temperature class of T6 with a maximum temperature of 60^{o}C

The minimum permissible ambient temperature is -40^{o}C
The maximum permissible ambient temperature is 60^{o}C

2 Safety Information and Notes

2.1 Storage of this Manual

Keep this user manual safe and in the vicinity of the antenna. All persons who have to work on or with the controller should be advised on where the manual is stored.

2.2 Special Conditions for Safe Use

2.2.1 ATEX/IECEx

- If terminated in the hazardous area, the flying lead shall be installed in an appropriately-certified enclosure. An example would be termination inside a flameproof enclosure via a suitable certified flameproof gland.

- The threshold power of the antenna shall be limited to 2 (two) watts when the antenna gain is taken into account. Programmable or software control intended for setting by the user is not permitted.

2.3 List of Notes

The notes supplied in this chapter provide information on the following.

- Danger / Warning.
  - Possible hazard to life or health.
- Caution
  - Possible damage to property.
- Important
  - Possible damage to the device, or associated equipment.
- Information
  - Notes on the optimum use of the device

Warning!	**The iANT100/iANT101 enclosure is an electrostatic charging hazard; clean only with a damp cloth**

Important	**The iANT100/iANT101 may be used in zones 1 and 2 with flammable gases and vapours with apparatus groups IIA, IIB & IIC and with all temperature classes.**

Important	**The iANT100/iANT101 may also be used in zones 21 and 22 with all flammable dusts compatible with the maximum surface temperature of 60°C. The appropriate safety margin should be applied**

Important	**The iANT100/iANT101 is only certified for use in ambient temperatures in the range -40°C to +60°C and should not be used outside this range**

Important	**The equipment has not been assessed as a safety-related device (as referred to by Directive 94/9/EC Annex II, clause 1.5**

Important	**Installation of this equipment shall be carried out by suitably trained personnel in accordance with the applicable code of practice (EN 60079-14).**

Important	**If terminated in the hazardous area, the flying lead shall be installed in an appropriately-certified enclosure. An example would be termination inside a flameproof enclosure via a suitable certified flameproof gland.**

Important	**The iANT100/iANT101 and associated wiring should be periodically inspected for damage, in accordance with the applicable code of practice (EN 60079-17)**

Important	**Repair of the iANT shall only be carried out by the manufacturer: The antenna contains no user-serviceable parts**

Warning	**The maximum radiated power shall not exceed 2 W EIRP**

3 General information

3.1 Installation and Function

3.1.1 Parts Enclosed

iANT100

- 1 x Antenna with 1mtr / 5mtr cable
- 1 x M6 x 10 slotted machine screw
- 1 x M6 lock washer
- 1 x Antenna Bracket
- 2 x 1 ¼" x 8 Wood Screws
- 2 x 6mm red rawl plugs
- 2 x self adhesive nylon blocks
- 2 x cable ties

iANT101

- 1 x Antenna with Cable as Ordered
- 1 x Antenna Pipe Mounting Bracket

If any Part is damaged or missing, contact Extronics Ltd

Warning	**Ensure that the M6 screw used to affix the iANT100 antenna does not protrude more than 10mm into the antenna through the attachment bracket. Protrusion greater than 10mm will cause damage to the antenna.**

3.1.2 Antenna Installation Recommendations

It is recommended that the antennas be mounted at least 204mm (8") away from any metal objects e.g. metal clad walls or girders.
The antennas should be mounted at least 600mm (24") apart for optimal performance, but will perform well closer together.

Information	**The iANT100 has optional brackets which allow the antenna to be mounted directly to Extronics Range of hazardous area access points**

Information	**The iANT101 is supplied with a pipe mounting bracket**

Information	**It is impossible for the straight or right-angled N-type connector fitted to the iANT100 to pass through an M20 gland entry. Either a larger entry (for example an M25) should be used, or the connector should be fitted after gland installation. Select either the gland reducer option or the connector supplied separately option for the iANT100 as appropriate.**

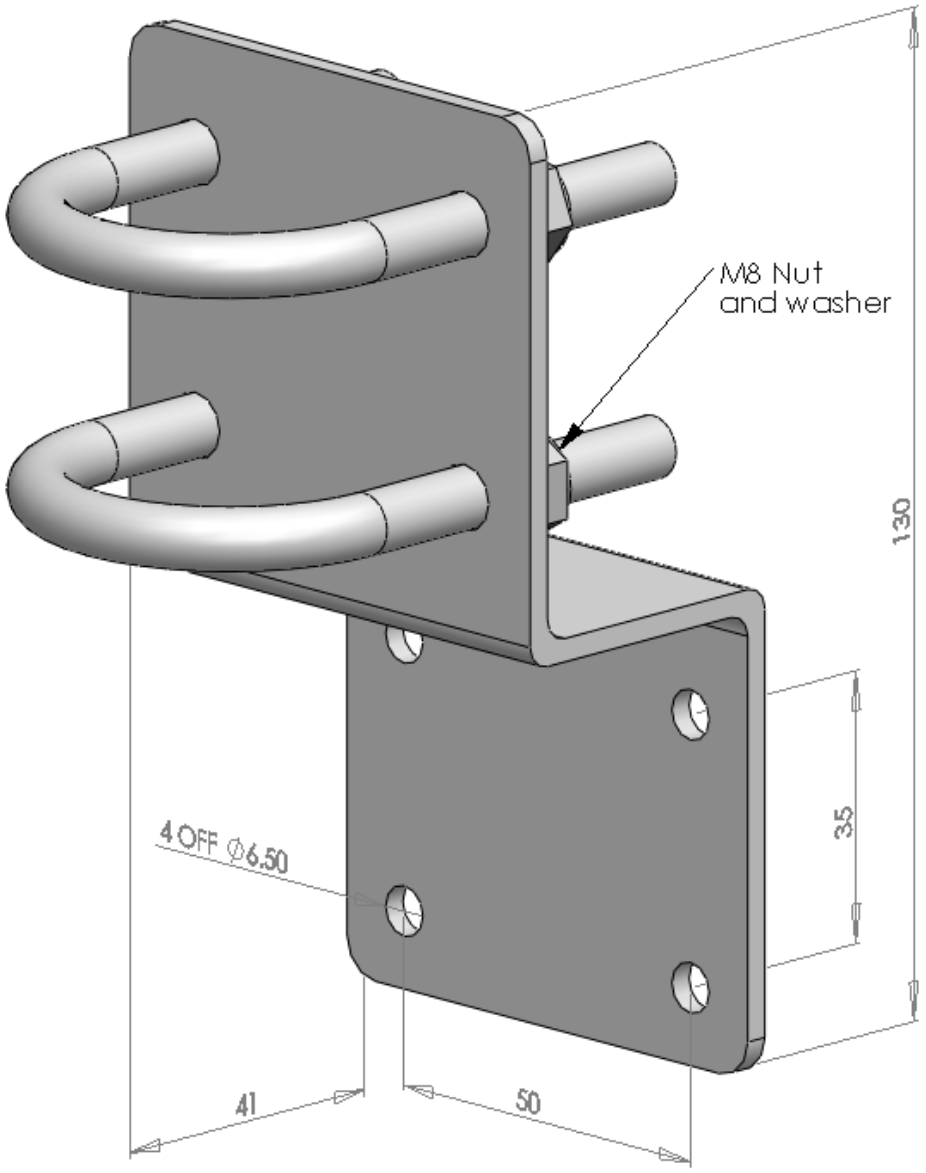
Information	**It is impossible for the straight N-type connector fitted to the iANT101 to pass through an M20 gland entry. Either a larger entry (for example an M25) should be used, or the connector should be fitted after gland installation. Select either the gland reducer option or the connector supplied separately option for the iANT101 as appropriate.**

Information	**It is impossible for the right-angled N-type connector fitted to the iANT101 to pass through an M25 gland entry. Either a larger entry (for example an M30) should be used, or the connector should be fitted after gland installation. Select either the connector supplied separately option for the iANT101, or use a larger entry as appropriate.**

3.2 Optional Accessories

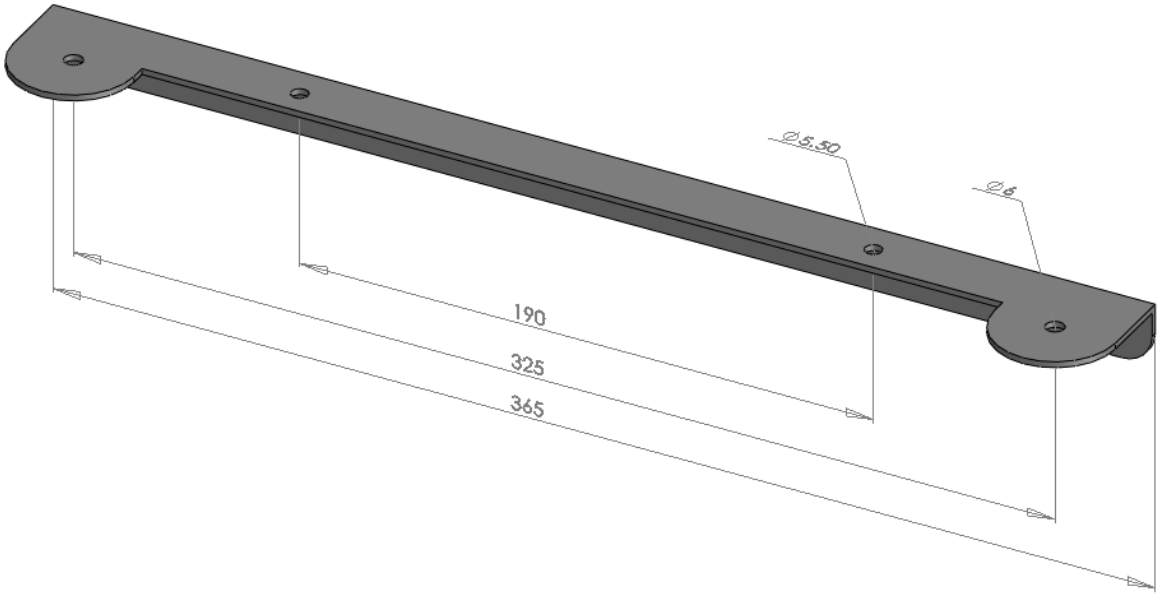
3.2.1 iANTMB01

316L stainless steel wall mount bracket assembly for iANT101 antenna. This bracket is fitted away from the iWAP enclosure.



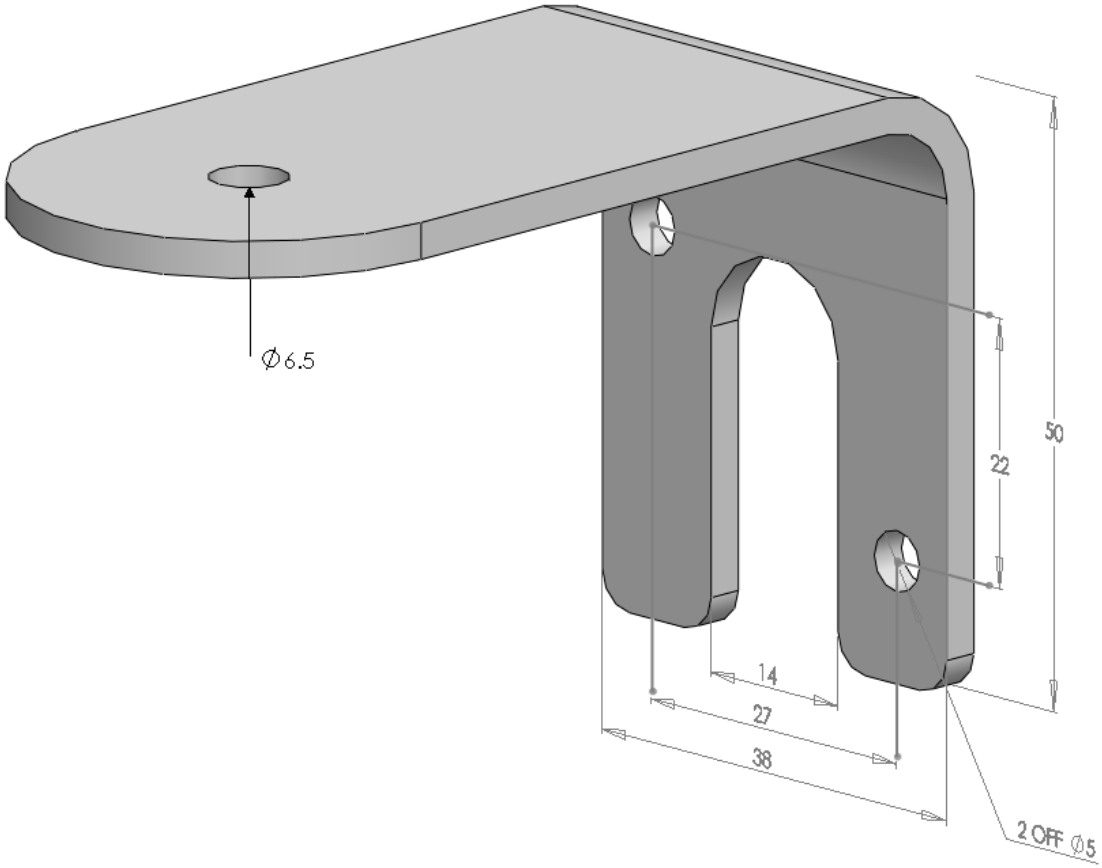
3.2.2 iANTMB02

316L stainless steel bracket kit, 365mm length, for two iANT100 antennas. This bracket can be fitted onto or away from the iWAP enclosure.



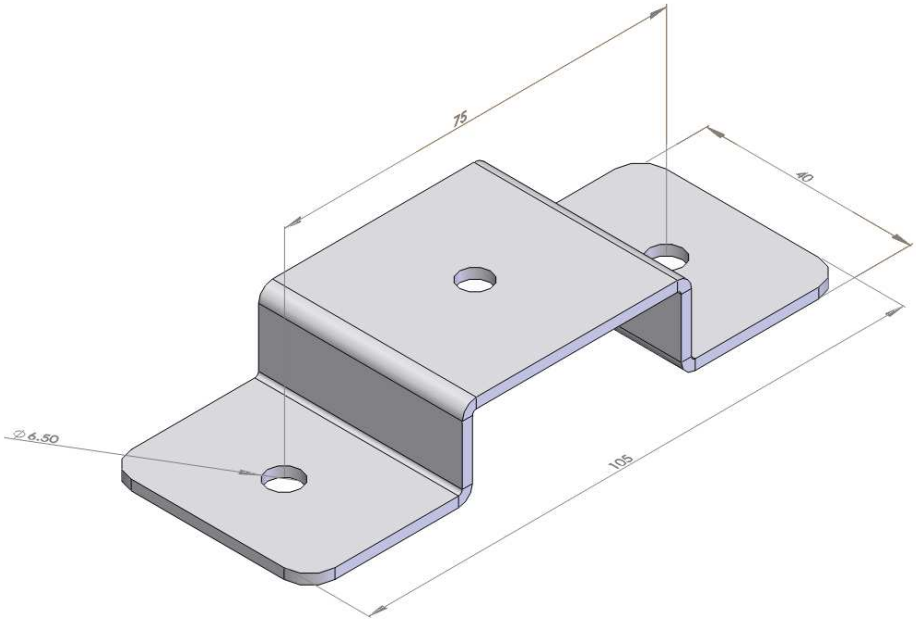
3.2.3 iANTMB03

316L stainless steel wall mount bracket kit for iANT100 antenna. This bracket is fitted away from the iWAP enclosure.



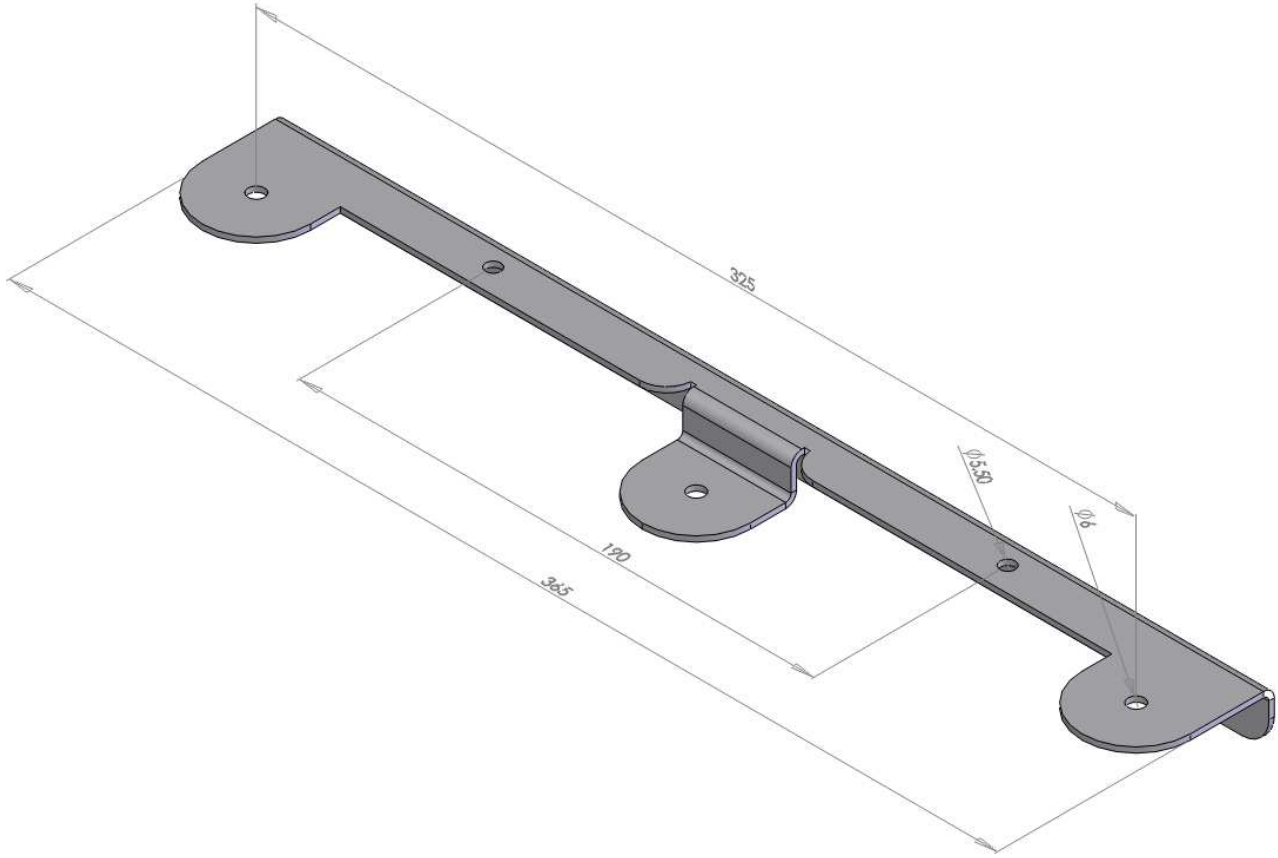
3.2.4 iANTMB04

316L stainless steel ceiling mount bracket kit for iANT100 antenna.
This bracket is fitted away from the iWAP enclosure.



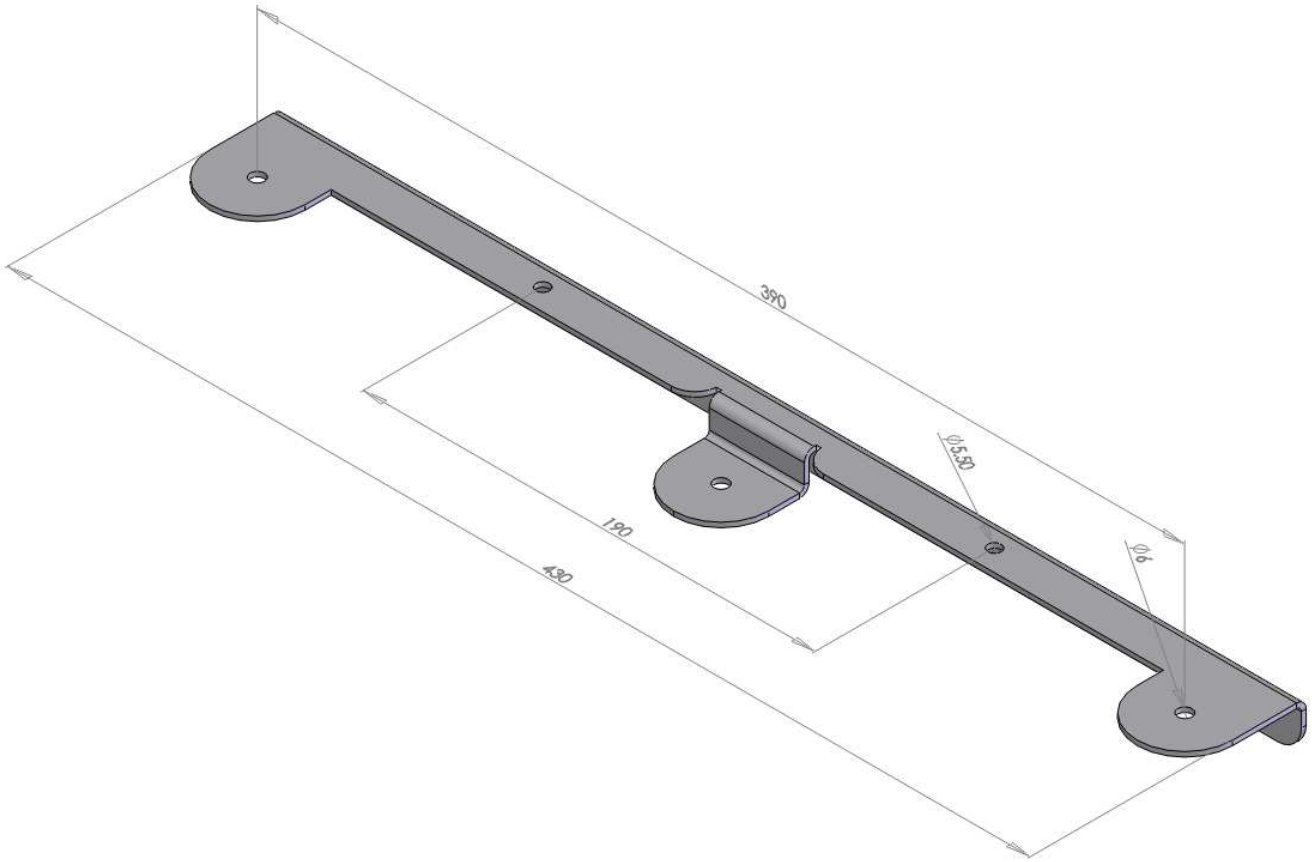
3.2.5 iANTMB05

316L stainless steel bracket kit, 365mm length, for three iANT100 antennas.
This bracket can be fitted onto or away from the iWAP enclosure.



3.2.6 iANTMB06

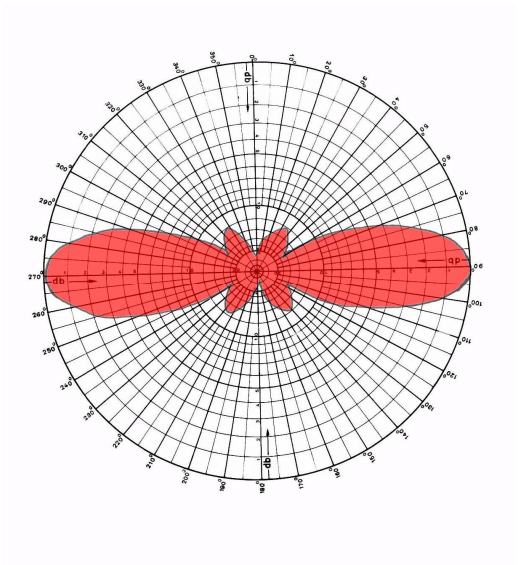
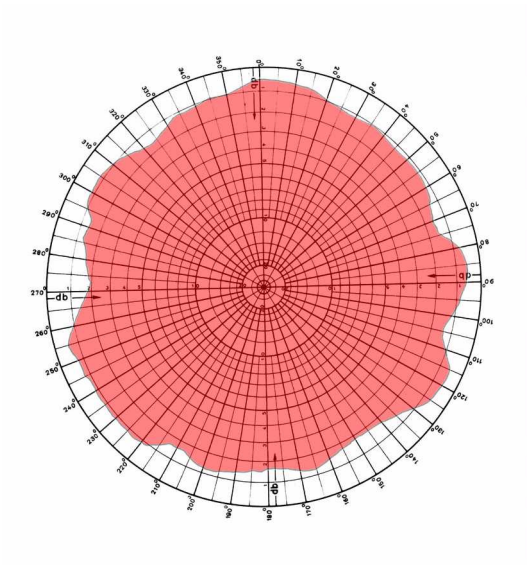
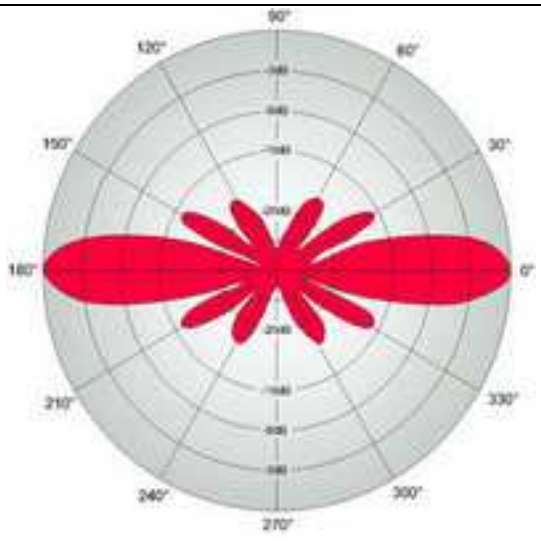
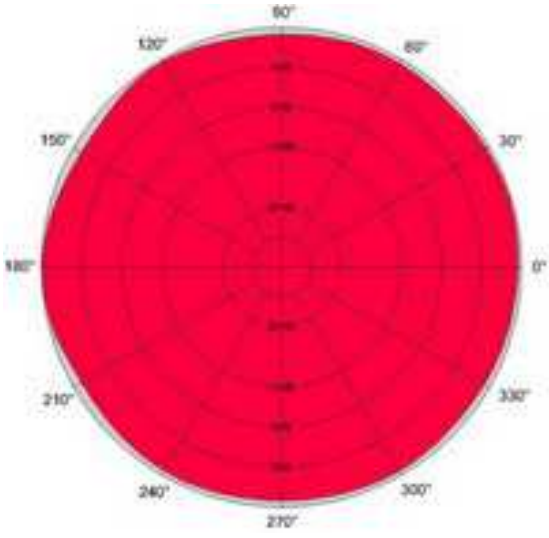
316L stainless steel bracket kit, 430mm length, for three iANT100 antennas. This bracket can be fitted onto or away from the iWAP enclosure.

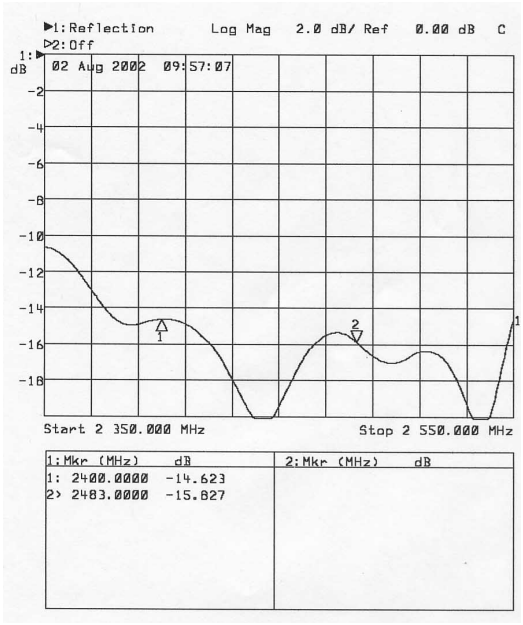
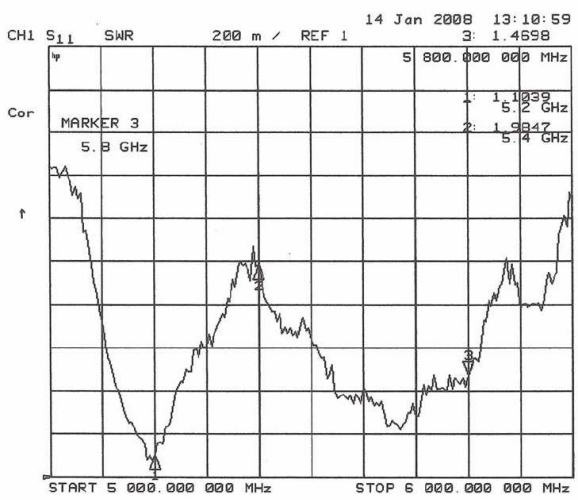


4 Technical Specification

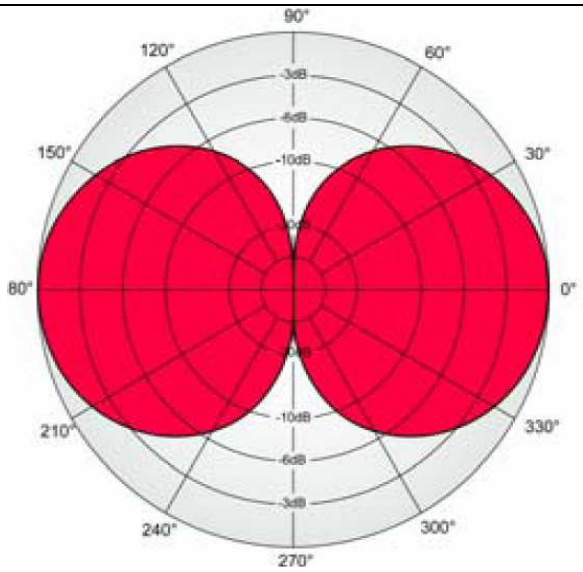
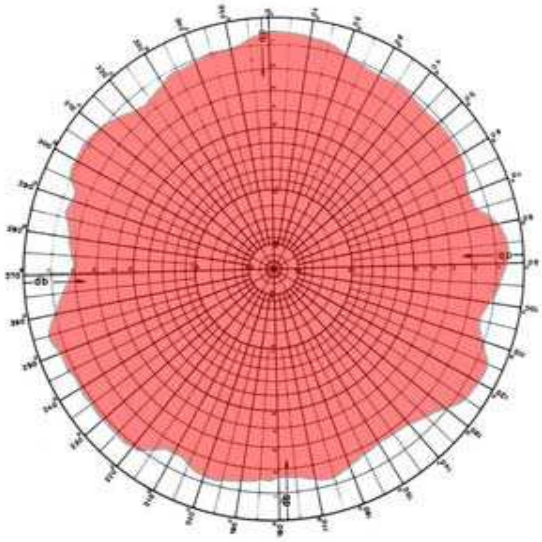
4.1 Antenna polar patterns and VSWR Plots

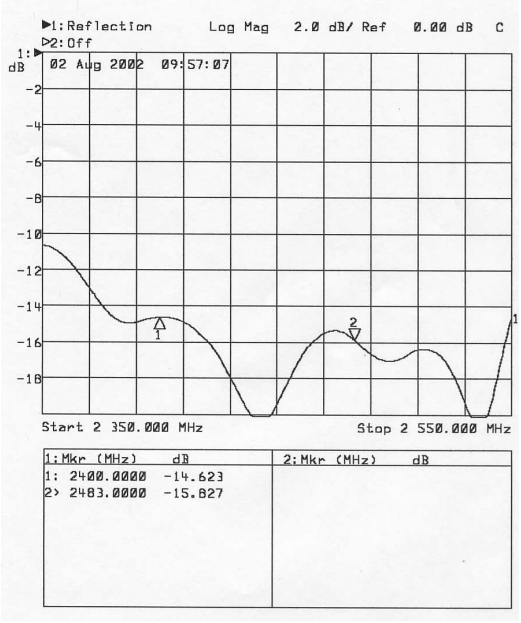
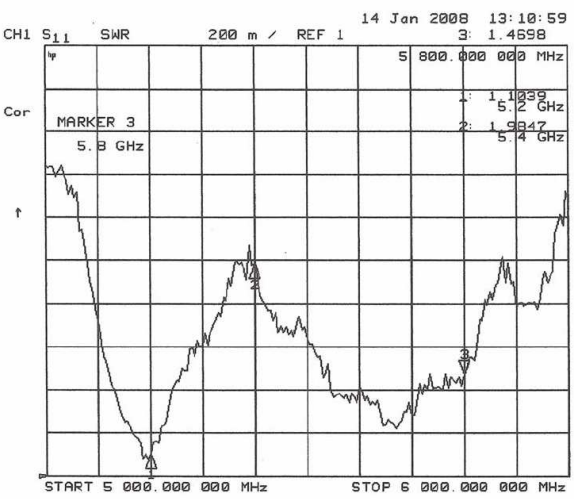
4.1.1 iANT100/101 2.4 GHz/5 GHz

iANT100/101 2.4GHz E Plane Pattern Vertical Free Space 3dB Beam-Width Approx 34°	iANT100/101 2.4 GHz H-Plane Pattern Vertical Free Space Omni-Directional
	
iANT100/101 5 GHz E Plane Pattern Vertical Free Space 3dB Beam-Width Approx 16°	**iANT100/101 5 GHz H-Plane Pattern Vertical Free Space Omni-Directional**
	

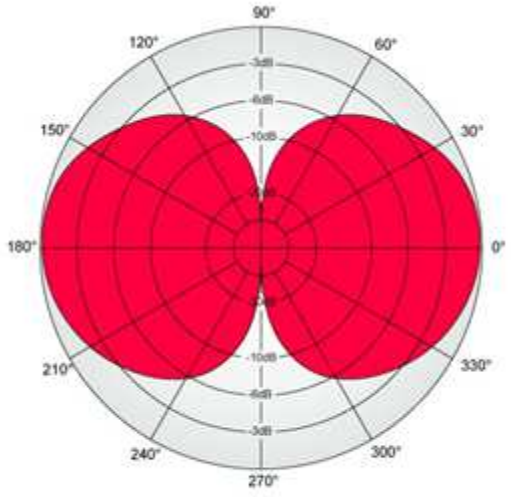
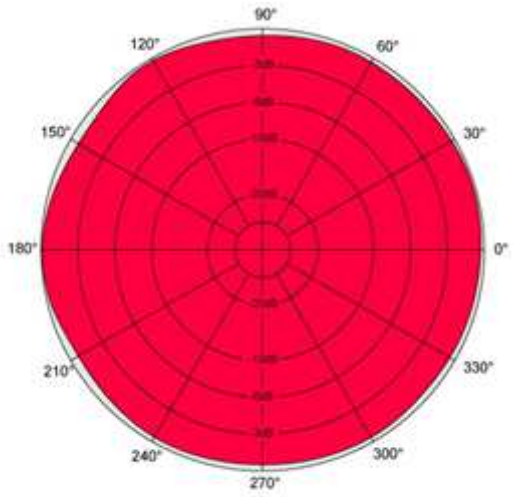
iANT100/101 2.4GHz VSWR Plot <1.8:1 2350—2550 MHz	iANT100/101 5GHz VSWR <2:1 5000—6000 MHz
	

4.1.2 iANT100 GSM Quad Band

iANT100 GSM Quad Band E Plane Pattern Vertical Free Space Beam-Width Approx 80°	iANT100 GSM Quad Band H-Plane Pattern Vertical Free Space Omni-Directional
	

iANT100 GSM Quad Band VSWR Plot <2:1 1750-1850MHz	**iANT100 GSM Quad Band VSWR Plot <2:1 860- 940 MHz**
	

4.1.3 iANT101 437/458.5/466MHz

iANT101 437/458.5/466MHz E Plane Pattern Vertical Free Space Beam-Width Approx 80°	**iANT101 437/458.5/466MHz H-Plane Pattern Vertical Free Space Omni-Directional**
 Radiation Pattern E-Plane	 Radiation Pattern H-Plane

4.2 iANT100 Specifications

Parameter	iANT100-24	iANT100-58	iANT100-GSM-QB
Power	Max power 1 Watt continuous ATEX: Maximum threshold power must not exceed 2W EIRP when taking antenna gain into account. Software RF Power control settable by the user is not permitted	Max power 1 Watt continuous ATEX: Maximum threshold power must not exceed 2W EIRP when taking antenna gain into account. Software RF Power control settable by the user is not permitted	Max power 1 Watt continuous ATEX: Maximum threshold power must not exceed 2W EIRP when taking antenna gain into account. Software RF Power control settable by the user is not permitted
Dimensions	210mm Length, 38mm Diameter	210mm Length, 38mm Diameter	210mm Length, 38mm Diameter
Weight	365g	365g	365g
Connections	Straight Reverse Polarity BNC (Other connector types available on request)	Straight Reverse Polarity BNC (Other connector types available on request)	Straight Reverse Polarity SMA (Other connector types available on request)
Cable Sealed Lead Length	Supplied as 5 metre as standard, other lengths on request	Supplied as 5 metre as standard, other lengths on request	Supplied as 5 metre as standard, other lengths on request
Frequency	2300 – 2500MHz	5150—5875MHz	GSM 850 / 900 / 1800 / 1900 / 2100
Bandwidth	+/- 100MHz	Bands A, B and C	
Impedance	50 Ohms	50 Ohms	50 Ohms
Return Loss	Better than –12 dB over bandwidth	Better than –12 dB over bandwidth	Better than -12dB over bandwidth
Gain	5 dBi	8 dBi	2 dBi
Horizontal Radiation Pattern	Omni Directional	Omni Directional	Omni Directional
Vertical 3dB Beam-width	Approx 34°	Approx 16°	Approx 80°
Radiating Element	Brass tubing, copper plated steel rod	PCB and Brass tubing.	PCB
Ambient Temperature	-40°C to 60°C	-40°C to 60°C	-40°C to +60°C
IP Rating	IP66	IP66	IP66
Certification Number	Sira 11ATEX3100X IECEx SIR 11.0045X	Sira 11ATEX3100X IECEx SIR 11.0045X	Sira 11ATEX3100X IECEx SIR 11.0045X
ATEX Certification	II 2GD Ex e IIC T6 Gb (Ta = -40°C to +60°C) Ex t IIIC T85°C Db IP66	II 2GD Ex e IIC T6 Gb (Ta = -40°C to +60°C) Ex t IIIC T85°C Db IP66	II 2GD Ex e IIC T6 Gb (Ta = -40°C to +60°C) Ex t IIIC T85°C Db IP66
IECEx Certification	Ex e IIC T6 Gb (Ta = -40°C to +60°C)Ex t IIIC T85°C Db IP66	Ex e IIC T6 Gb (Ta = -40°C to +60°C)Ex t IIIC T85°C Db IP66	Ex e IIC T6 Gb (Ta = -40°C to +60°C) Ex t IIIC T85°C Db IP66

4.3 iANT100 Cable Loss

Cable length	900MHz	1800MHz	2GHz	2.5GHz	5GHz	5.8GHz
1m	0.36dB	0.53dB	0.55dB	0.62dB	0.91dB	0.98dB
3m	1.07dB	1.58dB	1.66dB	1.87dB	2.72dB	2.94dB
5m	1.78dB	2.63dB	2.77dB	3.12dB	4.53dB	4.91dB
8m	2.84dB	4.20dB	4.43dB	4.99dB	7.24dB	7.85dB
10m	3.55dB	5.25dB	5.54dB	6.24dB	9.10dB	9.81dB

4.4 iANT101 Specifications

	iANT101 2.4GHz	iANT101 5GHz	iANT101 437/458.5/466MHz
Power	Max power 1 Watt continuous ATEX: Maximum threshold power must not exceed 2W EIRP when taking antenna gain into account. Software RF Power control settable by the user is not permitted	Max power 1 Watt continuous ATEX: Maximum threshold power must not exceed 2W EIRP when taking antenna gain into account. Software RF Power control settable by the user is not permitted	Max power 1 Watt continuous ATEX: Maximum threshold power must not exceed 2W EIRP when taking antenna gain into account. Software RF Power control settable by the user is not permitted
Dimensions	250mm Length, 38mm Diameter	250mm Length, 38mm Diameter	330mm Length, 38mm Diameter
Weight	480g Not including Cable	480g Not including Cable	510g Not including Cable
Connections	Please Specify with Order	Please Specify with Order	Please Specify with Order
Frequency	2300 - 2500MHz	5150 - 5875MHz	437/458.5 MHz/466MHz
Bandwidth	+/- 100MHz	Suitable for Bands A, B and C	+/- 3MHz
Impedance	50 Ohms	50 Ohms	50 Ohms
Return Loss	Better than –12 dB over bandwidth	Better than –12 dB over bandwidth	Better than –14 dB over bandwidth
Gain	5 dBi @ 2.4 GHz	8 dBi @ 5.8 GHz	0dBi @ 437/458.5/466MHz
Horizontal Radiation Pattern	Omni-directional	Omni-directional	Omni-directional
Vertical 3dB Beam-width	Approx 34°	Approx 16°	Approx 80°
Radiator Element	Brass tubing, copper plated steel rod	PCB and Brass Rod	Brass Tubing & Helical Element
Ambient Temperature	-40°C to 60°C	-40°C to 60°C	-40°C to 60°C
IP Rating	IP66	IP66	IP66
Certification Number	Sira 11ATEX3100X IECEx SIR 11.0045X	Sira 11ATEX3100X IECEx SIR 11.0045X	Sira 11ATEX3100X IECEx SIR 11.0045X
ATEX Certification	II 2GD Ex e IIC T6 Gb (Ta = -40°C to +60°C) Ex t IIIC T85°C Db IP66	II 2GD Ex e IIC T6 Gb (Ta = -40°C to +60°C) Ex t IIIC T85°C Db IP66	II 2GD Ex e IIC T6 Gb (Ta = -40°C to +60°C) Ex t IIIC T85°C Db IP66

IECEx Certification	Ex e IIC T6 Gb (Ta = -40°C to +60°C) Ex t IIIC T85°C Db IP66	Ex e IIC T6 Gb (Ta = -40°C to +60°C) Ex t IIIC T85°C Db IP66	Ex e IIC T6 Gb (Ta = -40°C to +60°C) Ex t IIIC T85°C Db IP66
Cable Type	LMR-400-FR Non-halogen to IEC60754 Low smoke to IEC61034 Flame-retardant to IEC332-1 + 3	LMR-400-FR Non-halogen to IEC60754 Low smoke to IEC61034 Flame-retardant to IEC332-1 + 3	LMR-400-FR Non-halogen to IEC60754 Low smoke to IEC61034 Flame-retardant to IEC332-1 + 3
Mounting	Antenna supplied with galvanised steel pipe mounting bracket for 38mm pipe. Optional 316L stainless steel wall mounting bracket also available	Antenna supplied with galvanised steel pipe mounting bracket for 38mm pipe. Optional 316L stainless steel wall mounting bracket also available	Antenna supplied with galvanised steel pipe mounting bracket for 38mm pipe. Optional 316L stainless steel wall mounting bracket also available

4.5 iANT101 Cable Loss

Cable length	437/458.5/466MHz	2.4GHz	5.8GHz
1m	0.10dB	0.22dB	0.36dB
2m	0.20dB	0.44dB	0.72dB
5m	0.40dB	1.10dB	1.80dB
10m	0.90dB	2.20dB	3.60dB
15m	1.30dB	3.30dB	5.40dB
20m	1.80dB	4.40dB	7.20dB
30m	2.70dB	6.60dB	10.80dB

5 Intended Purpose Usage

5.1 Transportation and Storage

All iANT devices must be so transported and stored that they are not subjected to any excessive mechanical stresses.

5.2 Cleaning and Maintenance

The iANT and all its components require no maintenance and are self-monitoring. All work on the iANT100 or iANT101 by personnel who are not expressly qualified for such activities will cause the Ex approval and the guarantee to become void.

Warning!	**The iANT100 and iANT101 enclosures are an electrostatic charging hazard; clean only with a damp cloth**

6 Fitting of Exd Antenna Cable Gland on iANT100

These instructions are intended only for when the iANT100 is to be used with the iWAP range of enclosures For full installation instructions also refer to Peppers CR-UB assembly instructions . Contact Extronics for fitting instructions for iANT101 glands.

Figure 1

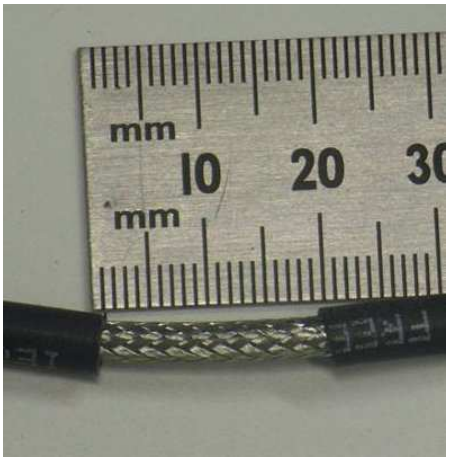


Figure 2

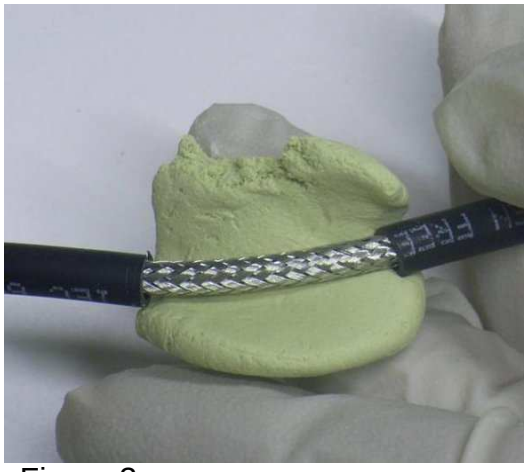


Figure 3

Figure 4

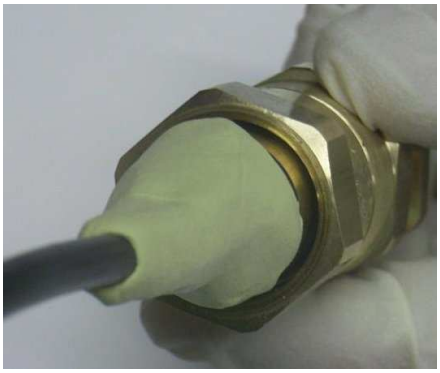


Figure 5

Figure 6

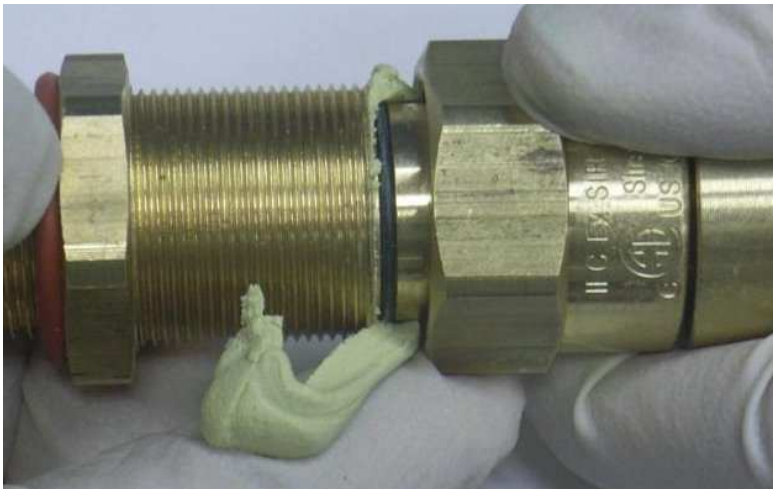


Figure 7

Figure 8

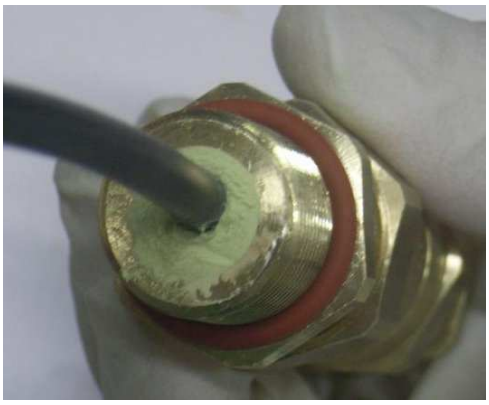


Figure 9

1. Split gland as Shown in Figure 1
2. Fit Entry Body into the iWAP enclosure. Hand-tighten, then using wrench tighten a further ½ turn. DO NOT EXCEED MAX TORQUE FOR ENCLOSURE
3. Slide Rear Assembly (Back Nut, Mid Cap and Union Nut) onto cable.

CABLE PREPARATION

1. Cut around circumference of cable, being careful not to cut into braid.
2. Slide cable sheath to expose 20-25mm of braid as shown in figure 2.
3. Check compound has not passed its "Use By" date..**Note** Installation at temperatures below 10°C should be avoided.
4. Trim any hardened pieces from ends of stick. Mix the compound by rolling, folding and breaking. Ease mixing by cutting large sticks in half. Fully mixed compound has a uniform yellow colour with no streaks.
5. Support the cable and Rear Assembly, holding them roughly concentric. Starting at the middle, pack a small amount of compound around the screen of the cable as shown in figure 3. Pressing and working the compound into the braid.
6. Pack Compound around the cable to completely fill the Rear Assembly cup. Build up compound around the outside of the cores, with a slight taper & to approximately 40mm in length, as shown in figure 4
7. Pass the cable through and push compound into Entry Body until Rear Assembly engages. Remove squeezed out compound as Screw Union full turns onto Entry Body. Ensure that compound emerges at entry thread, as per figures 7 and 8.
8. Clean off excess compound from Entry Body to allow withdrawal when cured, as shown in figure 9.
9. Leave to cure for a minimum of 4 hours when working at 21ºC
10. To release and pull back joint for inspection, unscrew Union Nut
11. Hand-tighten Union Nut to remake joint. Then refer to table below and tighten Union Nut using wrench to the given amount. Hold Mid Cap with wrench and tighten Back Nut onto cable. Ensure seal makes full contact with cable sheath, then tighten 1 extra turn
12. The equipment should not be energised until the compound has been left to cure for at least 4 hours when working at 21ºC. See chart ‘Energising Time vs. Temperature’ for further guidance

HEALTH AND SAFETY WARNING

The resin used in the compound can cause eye and skin irritation. For your personal protection, wear the gloves supplied while mixing and applying. The uncured compound should not be allowed to come into contact with foodstuffs.

A COMPREHENSIVE SAFETY DATA SHEET PROVIDED BY THE COMPOUND MANUFACTURER IS AVAILABLE ON REQUEST

7 Type Codes

7.1 iANT100

iANT100 Zone 1 Omni Directional Antenna	**iANT100-[#1]-[#2]-[#3]-[#4]-[#5]-[#6]-[#7]-[#8]**
Specify option [#1] - Frequency	
2.4GHz Frequency	24
5 GHz Frequency	58
GSM Quad-band	QB
Specify option [#2] - Cable Length	
5m	5
Special cable length	S
Specify option [#3] - Connector type	
Straight N-type male *	1
Right angle N-type male (Recommended for use with Extronics iWAP103) *	2
Straight reverse-polarity SMA male	3
Right-angle reverse-polarity TNC male	4
Straight reverse-polarity BNC male	5
No connector fitted	6

* N.B. It is impossible for a straight or right-angled N-type connector fitted to the cable to pass through the enclosure entry for an M20 cable gland. Either the connector must be fitted after passing the cable through the enclosure hole, or a larger M25 enclosure entry should be used with a suitable thread reducer. This permits the N-type connector to pass through the hole.
Select either option #4 (N) or option#7 (2).

Note that the Extronics iWAP103 is supplied with M25 cable entries and M25-M20 thread reducers as standard.

Specify option [#4] - Connector fitting	
Selected connector fitted	F
Crimp connector supplied separately for customer fitting (RG58 crimp tool required)	N
Specify option [#5] - Cable Gland	
No gland fitted	1
Fitted with CR-UB-NP-16-M20 Ex d cable gland	2
Fitted with CR-UB-NP-16-075-NPT Ex d cable gland	3
Fitted with customer-supplied cable gland	4
Specify option [#6] - Cable Gland Position	
Cable gland installed at default distance from antenna (cable length minus 0.45m)	D
Special cable gland position, specify on order (Cable gland must be a minimum of 0.65m from the antenna, and a minimum of 0.45m is recommended between the gland and connector)	S
Specify option [#7] - Gland thread reducer supplied	
No thread reducer supplied	1
CR-UB-NP-16-M20 Ex d cable gland supplied with M25 - M20 thread reducer	2
Specify option [#8] - Mounting bracket	
Supplied with standard aluminium wall mounting bracket	1
Supplied with 316 stainless steel wall mounting bracket	2
Optional Accessories also available separately	
316 stainless steel wall mounting bracket	iANTMB03

7.2 iANT101

iANT101 Zone 1 Omni Directional Antenna **iANT101-[#1]-[#2]-[#3]-[#4]-[#5]-[#6] [#7]-[#8]**

Specify option [#1] – Frequency

2.4GHz	24
5 GHz	58
437MHz	43
458.5MHz	45
466MHz	46

Specify option [#2] - Cable Length

5m	5
10m	10
15m	15
20m	20
25m	25
Special cable length	S

Specify option [#3] - Connector type

Straight N-type male *	1
Right Angle N-type male (recommended for use with Extronics iWAP103) **	2
Straight reverse-polarity SMA male	3
Straight reverse-polarity TNC male	4
No connector fitted	5

* N.B. It is impossible for a straight N-type connector fitted to the cable to pass through the enclosure entry for an M20 cable gland. Either the connector must be fitted after passing the cable through the enclosure hole, or a larger M25 enclosure entry should be used with a suitable thread reducer. This permits the N-type connector to pass through the hole. Select either option #4 (N) or option#7 (2).

Note that the Extronics iWAP103 is supplied with M25 cable entries and M25-M20 thread reducers as standard.

**N.B. It is impossible for a right-angle N-type connector fitted to the cable to pass through the enclosure entry for an M20 or M25 cable gland. The connector must be fitted after passing the cable through the enclosure hole, or a larger entry used.

Specify option [#4] - Connector fitting

Selected connector fitted	F
Selected connector supplied separately for customer fitting (LMR-400 Crimp tool required)	N

Specify option [#5] - Cable Gland

No gland fitted	1
Fitted with CR-UB-NP-20-M20 Ex d cable gland	2
Fitted with customer-supplied cable gland	3

Specify option [#6] - Cable Gland Position

Cable gland installed at default distance from antenna (cable length minus 0.45m)	D
Special cable gland position, specify on order (Cable gland must be a minimum of 0.65m from the antenna, and a minimum of 0.45m is recommended between the gland and connector)	S

Specify option [#7] - Gland thread reducer supplied

No thread reducer supplied	1
CR-UB-NP-16-M20 Ex d cable gland supplied with M25 - M20 thread reducer	2

Specify option [#8] - Mounting bracket

Supplied with galvanised steel 38mm pipe mounting bracket	1
Supplied with 316L stainless wall mounting bracket	2

Optional Accessories also available separately

316L stainless steel wall mounting bracket	iANTMB01

8 EC Declaration of Conformity

EXTRONICS Hazardous Area Specialists

EC Declaration of Conformity

Extronics Ltd, 1 Dalton Way, Midpoint 18, Middlewich, CW10 0HU, UK

Declare under sole responsibility that the product,

iANT100-*-* Omni Directional Zone 1/21 & Zone 2/22 LAN Base Antenna

iANT101-*-* Omni Directional Zone 1/21 & Zone 2/22 LAN Base Antenna

To which this declaration relates is in accordance with the provision of the following directives

94/9/EC	Equipment and protective systems intended for use in potentially explosive atmospheres
2002/95/EC	Restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)
2002/96/EC	Waste Electrical and Electronic Equipment Directive (WEEE)

EC type Examination Certificate	**Sira 11ATEX3100X Issue 1**
Provisions of Directive fulfilled by the equipment	**II 2GD** **Ex e IIC T6 Gb Ta = -40°C to +60°C** **Ex t IIIC T85°C Db IP66**
Notified Body for EC Type Examination Notified Body for production	**SIRA, 0518, Sira, Chester, UK** **SIRA, 0518, Sira, Chester, UK**

And is in conformity with the following standards or other nominative documents

EN 60079-0:2009	Explosive atmospheres – Part 0: Equipment - General Requirements
EN 60079-7:2007	Explosive atmospheres – Part 7: Equipment protection by increased safety "e"
IEC 60079-31:2008	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"

Signed Date: 08/10/2012

Ben Seaby
Senior Development Engineer

Document 334221_01

Extronics Ltd · 1 Dalton Way · Midpoint 18 · Middlewich · CW10 0HU Tel +44 (0)845 277 5000 Fax +44 (0)845 277 4000 E-mail info@extronics.com Web www.extronics.com

9 ATEX & IECEx CERTIFICATION

sira CERTIFICATION

1 **EC TYPE-EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3 Certificate Number: **Sira 11ATEX3100X** Issue: **1**

4 Equipment: **iANT10x xx.xx xHz Omni-Directional Antenna**

5 Applicant: **Extronics Ltd**

6 Address: 1 Dalton Way
Midpoint 18,
Middlewich
Cheshire CW10 0HU
UK

7 This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 Sira Certification Service, notified body number 0518 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 60079-0:2009 EN 60079-7:2007 IEC 60079-31:2008

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC type-examination certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:

II 2GD
Ex e IIC T6 Gb Ta = -40°C to +60°C
Ex t IIIC T85°C Db IP66

Project Number 24353

D R Stubbings BA MIET
Certification Manager

This certificate and its schedules may only be reproduced in its entirety and without change.

Sira Certification Service
Rake Lane, Eccleston, Chester, CH4 9JN, England
Tel: +44 (0) 1244 670900
Fax: +44 (0) 1244 681330
Email: info@siracertification.com
Web: www.siracertification.com

Form 9404 Issue 1

SCHEDULE

EC TYPE-EXAMINATION CERTIFICATE **Sira 11ATEX3100X**
Issue 1

13 **DESCRIPTION OF EQUIPMENT**

The antenna comprises a single, copper-plated, steel conductor running along the axis of a cylindrical housing that is made from a non-conducting plastic, the central conductor acts as a radiating element for the transmission of radio frequency radiation. The antenna is supplied with an integral flying lead of co-axial cable.

Variation 1 - This variation introduced the following change:

i. The change of address from Meridian House, Roe street, Congleton, Cheshire, CW12 1PG, to that currently shown was recognised.

14 **DESCRIPTIVE DOCUMENTS**

14.1 **Drawings**

Refer to Certificate Annexe.

14.2 **Associated Sira Reports and Certificate History**

Issue	Date	Report number	Comment
0	03 March 2011	R24353A/00	The release of the prime certificate.
1	30 August 2012	R28804A/00	The introduction of Variation 1.

14.3 Certificate number Sira 09ATEX3251X Issue 1

15 **SPECIAL CONDITIONS FOR SAFE USE** (denoted by X after the certificate number)

15.1 If terminated in the hazardous area, the flying lead shall be installed in an appropriately-certified enclosure. An example would be termination inside a flameproof enclosure via a suitable certified flameproof gland.

15.2 The threshold power of the antenna shall be limited to 2 (two) watts when the antenna gain is taken into account. Programmable or software control intended for setting by the user is not permitted.

16 **ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II** (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

17 **CONDITIONS OF CERTIFICATION**

17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.

17.2 Holders of EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.

17.3 A dielectric strength test at 500 Vrms, in accordance with EN 60079-7 clause 7.1, shall be carried out on all units manufactured.

17.4 The manufacturer shall provide the necessary information in order that the user can meet the Condition of Certification associated with this equipment with regards to the antenna not exceeding a threshold power of 2 (two) watts.

This certificate and its schedules may only be reproduced in its entirety and without change.

Sira Certification Service
Rake Lane, Eccleston, Chester, CH4 9JN, England
Tel: +44 (0) 1244 670900
Fax: +44 (0) 1244 681330
Email: info@siracertification.com
Web: www.siracertification.com

Form 9400 Issue1

Certificate Annexe

Certificate Number: **Sira 11ATEX3100X**

Equipment: **iANT10x xx.xx xHz Omni-Directional Antenna**

Applicant: **Extronics Ltd**

Issue 0

Drawing No.	Sheets	Rev.	Date (Sira stamp)	Title
314185	1 of 1	3	03 Mar 11	iANT10x Label

Issue 1

Drawing No.	Sheets	Rev.	Date (Sira stamp)	Title
314185	1 of 1	04	30 Aug 12	iANT10x Label

This certificate and its schedules may only be reproduced in its entirety and without change.

Form 94XX Issue 1

Sira Certification Service
Rake Lane, Eccleston, Chester, CH4 9JN, England
Tel: +44 (0) 1244 670900
Fax: +44 (0) 1244 681330
Email: info@siracertification.com
Web: www.siracertification.com

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx SIR 11.0045X Issue No.:1

Certificate history:
Issue No. 1 (2012-8-31)
Issue No. 0 (2011-3-7)

Status: Current

Date of Issue: 2012-08-31 Page 1 of 4

Applicant: **Extronics Limited**
1 Dalton Way
Midpoint 18,
Middlewich
Cheshire CW10 0HU
United Kingdom

Electrical Apparatus: **iANT10x xx.xx xHz Omni-Directional Antenna**
Optional accessory:

Type of Protection: **Increased Safety and Dust**

Marking: Ex e IIC T6 Gb Ta = -40°C to +60°C
Ex t IIIC T85°C Db IP66

Approved for issue on behalf of the IECEx Certification Body: D R Stubbings BA MIET

Position: Certification Manager

Signature: (for printed version)

Date: 2012-08-31

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

SIRA Certification Service
Rake Lane
Eccleston
Chester
CH4 9JN
United Kingdom

sira CERTIFICATION

IECEx Certificate of Conformity

Certificate No.: IECEx SIR 11.0045X

Date of Issue: **2012-08-31** Issue No.: 1

Manufacturer:

Extronics Limited
1 Dalton Way
Midpoint 18,
Middlewich
Cheshire CW10 0HU
United Kingdom

Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:
The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2007-10 Edition: 5	Explosive atmospheres - Part 0:Equipment - General requirements
IEC 60079-31 : 2008 Edition: 1	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure 't'
IEC 60079-7 : 2006-07 Edition: 4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:
GB/SIR/ExTR11.0053/00 GB/SIR/ExTR12.0217/00

Quality Assessment Report:

GB/SIR/QAR08.0025/01 GB/SIR/QAR08.0025/02 GB/SIR/QAR08.0025/03

IECEx Certificate of Conformity

Certificate No.: IECEx SIR 11.0045X

Date of Issue: 2012-08-31 Issue No.: 1

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The antenna comprises a single, copper-plated, steel conductor running along the axis of a cylindrical housing that is made from a non-conducting plastic, the central conductor acts as a radiating element for the transmission of radio frequency radiation. The antenna is supplied with an integral flying lead of co-axial cable

The Manufacturer shall comply with the following condition of manufacture:

1. A dielectric strength test at 500 Vrms, in accordance with IEC 60079-7 clause 7.1, shall be carried out on all units manufactured
2. The manufacturer shall provide the necessary information in order that the user can meet the Condition of Certification associated with this equipment with regards to the antenna not exceeding a threshold power of 2 (two) watts

CONDITIONS OF CERTIFICATION: YES as shown below:

1 If terminated in the hazardous area, the flying lead shall be installed in an appropriately-certified enclosure. An example would be termination inside a flameproof enclosure via a suitable certified flameproof gland.

2 The threshold power of the antenna shall be limited to 2 (two) watts when the antenna gain is taken into account. Programmable or software control intended for setting by the user is not permitted.

IECEx Certificate of Conformity

Certificate No.: IECEx SIR 11.0045X

Date of Issue: 2012-08-31 Issue No.: 1

Page 4 of 4

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue 1 – this issue introduced the following changes:	
1	The change of address from Meridian House, Roe street, Congleton, Cheshire, CW12 1PG, to that currently shown was recognised

10 Warranty Information

The Customer shall carry out a thorough inspection of the delivered project or equipment with 21 days of delivery and shall give immediate written notification to the Company of any omissions, defects or faults.

The Company warrants that the project or equipment delivered shall accord with the Quotation or Pricing Schedule and related Company specifications, but it does not warrant its fitness for any other purpose.

Extronics will make good, by repair or at Extronics option by the supply of a replacement, defects which, under proper use in accordance with specifications and manufacturer's instructions, appear in the goods within a period of twelve calendar months after the goods have been delivered and arise solely from faulty design, materials or workmanship, provided always that defective parts have been returned to Extronics if Extronics shall have so required.

The warranty of any goods is based upon a return to Extronics factory (Return to Base Warranty) which will be at the Customers cost. The repaired or new parts will be delivered by Extronics carriage paid. If you allege that goods are totally unfit for their purpose they must be returned within 7 days of receipt. Site Warranty is expressly excluded from these terms and conditions unless agreement is made in writing between the parties it.

Extronics liability under this clause shall be in lieu of any warranty or condition implied by law as to the quality or fitness for any particular purpose of the goods, and save as provided in this clause Extronics shall not be under any liability, whether in contract, or otherwise, in respect of defects in goods delivered or for any injury other (than personal injury caused by Extronics negligence as defined in Section 1 of the Unfair Contract Terms Act, 1977), damage or loss resulting from such defects or from any work done in connection therewith, provided however that nothing in this clause shall operate to exclude any warranty or condition implied by law as to the quality of the goods in the event that the goods when sold by you or when sold by any person or persons to whom you may sell the goods shall become the subject of a consumer sale as defined in the Supply of Goods (Implied Terms) Act, 1973 except that any claim under such warranty or condition shall have arisen from any act or omission by you or by any person or persons selling the goods by way of a consumer sale.

11 Manual Revision

Revision	Description	Date	By
1	Original Copy	24/08/2006	David Revell
2	Added Gland Details	25/05/2007	Nick Saunders
3	Added iANT101 Version	22/08/2008	Nick Saunders
4	Added Mounting Bracket Section	10/12/2008	James Eastwood
5	New ATEX & IECEx Certificates	03/05/2011	Nick Saunders
6	Address change, warranty information	08/10/2012	Ben Seaby
7	Additional optional mounting brackets added	05/06/2013	Nick Eardley